

OPV: aVDPV strains detected at KTL, Helsinki

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A-VDPV means that, fortunately, there were no associated paralytic cases or an identified immunodeficient individual

but their emergence and existence is potentially as dangerous as that of cVDPV or iVDPV strains

- KTL is an European Regional Reference Laboratory entitled to receive for further characterization all PV isolates from 13 countries (total population ~ 50 M)
 - IPV only users: FIN, (DEN), ICE, NOR, SWE
 - OPV users: AUT, CRO, CZE, EST, LTV, LIT, SVK, SLV
 - (some of the latter switched to use IPV)

Detection of 3 episodes of VDPVs – all in countries with high coverage OPV

(1) PV3 ISOLATE FROM TALLINN SEWAGE Oct 2002



Blomqvist et al. J Virol 2004;78:4876-83.

ITD: aberrantly reacting strain

VP1 sequence: 13% from PV3Sabin

Single PV3/PV1 recombinant (switch 2C)

Fully neurovirulent in PVR-TG mice

Origin remains open: - No evidence for circulation
- No immunodeficient excretor known

Antigenically strongly drifted; potential for circulation both in Estonia and in Finland

(2) SLOVAKIA 2003 - 2005



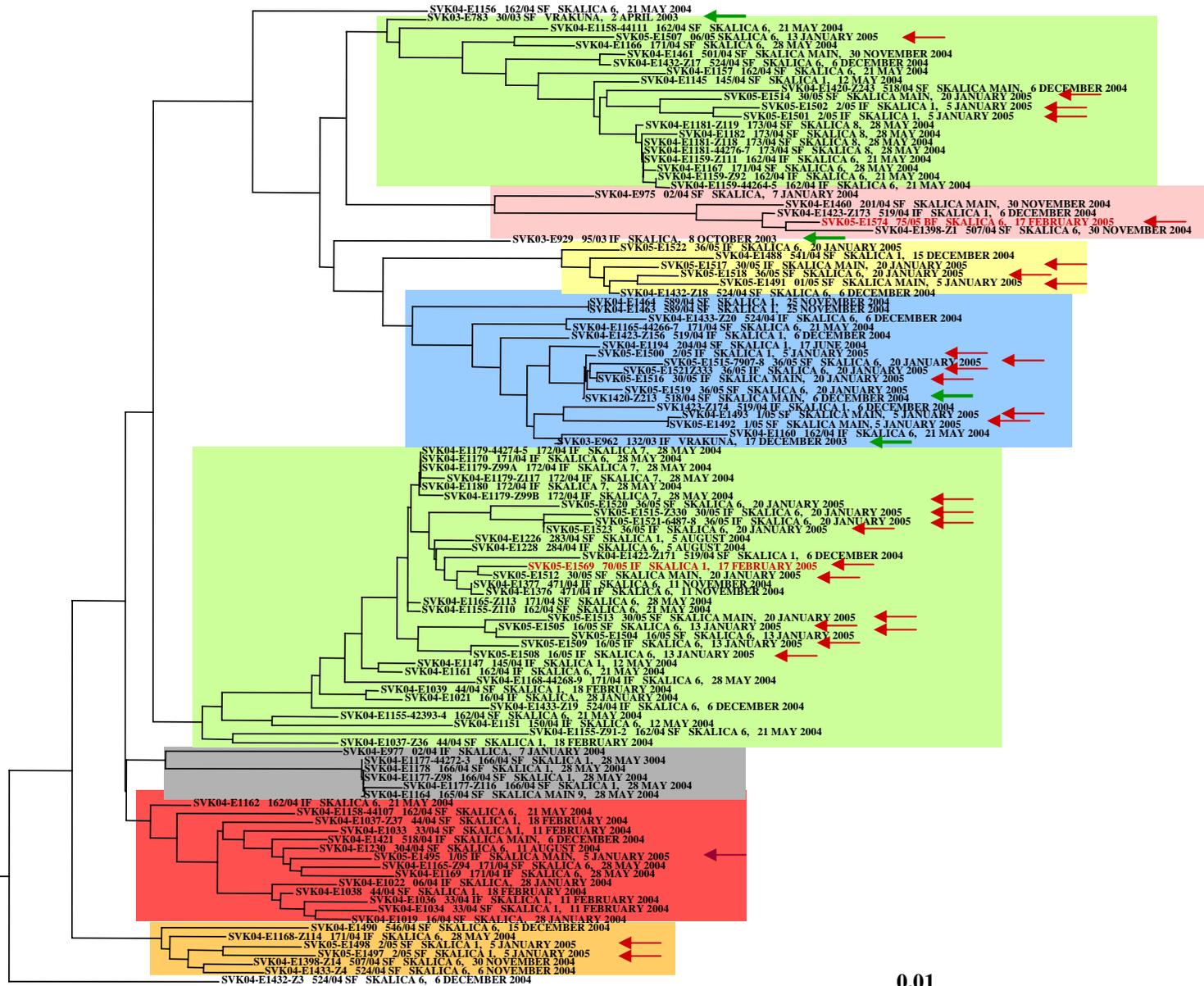
- Persistent excretion of PV2 VDPV in Slovakia; >100 strains from environmental specimens; all but 2 from a single town
- Infected host individual(s) localized in a small area but not identified; no cases reported
- VP1 vastly divergent (~14%) from Sabin 2 (closest relative also in P2P3)
- Neurovirulence (Tg-mouse) almost as that of wild type PV2/MEF-1

1. and 2. Possible origin: (Initially from) an immunodeficient individual ? Spreading to a few contacts?

PV2 VDPV ISOLATES FROM SLOVAKIA

Complete VP1 (903 nt)
K2P, NJ-tree, Ts/Tv 10.0
2.5.2005 KTL/AP

Green arrows 2003
Red arrows 2005



0.01

PV2/Sabin

(3) Czech Republic, 2006



- Several environmental specimens from close to different refugee camps yielded drifted PV1
- 6 closely related PV1 strains with VP1 sequence 1.1 – 1.3% from Sabin and **very close to Mahoney!** (About the same in 3D)
- No associated cases, not found in clinical specimen
- Origin unknown

CONCLUSION and thanks

- aVDPVs are not rare, they are usually neurovirulent but have not caused known disease – perhaps because of good herd immunity of the host population
- KTL Enterovirus Laboratory
 - Merja Roivainen
 - Soile Blomqvist
 - Anja Paananen